

Claims

1. System for treating, in particular cataphoretically
dip-coating, articles, in particular vehicle bodies,
5 comprising
- a) a plurality of treatment containers, in which the
articles are acted upon in each case by a
treatment liquid;
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- b) at least one feed carriage, by means of which the
articles are conveyed through the system and in
the process introduced into and removed from the
treatment containers and which in turn comprises:
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- ba) running gear movable along the path of
motion of the articles;
- bb) at least one swivel arm coupled to the
20 running gear;
- bc) a holding device coupled to the swivel arm
for at least one article;
- 25 bd) mutually independently actuatable drives for
the translational movement, the swivelling
of the at least one swivel arm and of the
holding device;
- 30 be) a counterbalancing device, by means of
which the energy needed to swivel the at
least one swivel arm may be reduced,

characterized in that

- 5 c) the counterbalancing device comprises at least one energy storage mechanism (42), in which the energy released during lowering of the article is temporarily storable by virtue of elastic deformation of a medium and from which the temporarily stored energy is retrievable in order to assist the upward movement of the article.
- 10 2. System according to claim 1, characterized in that the energy storage mechanism comprises at least one gas-filled, in particular air-filled bellows device (42).
- 15 3. System according to claim 2, characterized in that the internal pressure of the bellows device (42) is adjustable.
- 20 4. System according to claim 1, characterized in that the energy storage mechanism comprises a spring.
5. System according to claim 4, characterized in that the spring is a pneumatic spring.
- 25 6. System according to claim 4 or 5, characterized by a damping apparatus associated with the spring.
- 30 7. System according to one of the preceding claims, characterized in that a linkage (40) comprising a plurality of hinge-connected elements (43, 44, 45) lies in the energy flow between the at least one

swivel arm (50, 51) and the energy storage mechanism (42).

- 5 8. System according to claim 7, characterized in that the linkage (40) comprises three elements (43, 44, 45), of which the element (45) that acts upon the energy storage mechanism (42) is designed as a rocker-like, two-armed lever.
- 10 9. System according to claim 7 or 8, characterized in that the elements (43, 44, 45) of the linkage (40) comprise in each case two links, which are connected to one another by the link pins (46, 47, 48), about which the elements (43, 44, 45) are pivotable.
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10. System according to one of claims 7 to 9, characterized in that the drive for the at least one swivel arm (50, 51) comprises at least one motor (61), which drives a threaded spindle (61), which in turn interacts with a threaded coupling (63) pivotally fastened to an element (43) of the linkage (40).
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